

ERIC BLACK
PRELIMINARY FINDINGS
SUMMARY



Bailey.19798-1121
December 17, 2021

Henry F. Bailey Jr.
Partner, Founding Member
Bailey Stock Harmon Cottam Lopez LLP

VIA EMAIL (hank@performance-law.com)

Re: Fire Investigation – Preliminary Findings Summary

Insured Name: Beartooth Electric Cooperative
Date of Loss: November 15, 2021
Loss Location: 800 Block of County Road 1AB, Clark, WY
Event: Louis L'Amour Fire

Dear Henry Bailey:

At your request, Knott Laboratory, LLC (Knott) inspected the above referenced general loss location to potentially determine the origin and cause of the fire which occurred on November 15, 2021.

As part of Knott's investigation, Knott referenced online articles about the fire, and discussed the events leading up to the fire with Mr. Kevin Owens, General Manager, Beartooth Electric Cooperative (Beartooth); Mr. Nate Hoffert, Fire Chief, Clark Fire District (CFD); and Ms. Alicia Martin and Ms. Connie King, Residents. Information provided during Knott's investigation generally indicated that the fire was first observed and reported around 10:30pm on November 15, 2021. The fire occurred in and around the 800 Block of County Road 1AB, Clark, WY, which contained addresses also listed as Powell, WY. Conditions on the date of loss were generally described as windy and gusty, which contributed to the fire movement. Post-fire items of interest were identified in the area of the western-most region of the burn scar which included a tree branch with char indicators, and a metal trashcan/fire can.

A sample of the photographs taken by Knott are shown in **Attachment A**. The remainder of Knott's photographs can be provided upon request.

The following summary contains the initial findings as a result of that investigation:

Knott summary of information provided by Ms. Connie King:

- Ms. King and her husband reside at 986 CR 1AB, Clark, WY.
- Ms. King's husband first saw the fire at approximately 10:30pm. The fire was observed to be spreading north at first then changed directions heading east down the creek.

Knott summary of information provided by Mr. Nate Hoffert:

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- The first call for the fire was received at 10:26pm
- The fire was located along Upper Line Creek and was moving north until the wind changed directions and progressed east.
 - KL Note: Line Creek is generally located between Line Creek Road (CR 1AB) to the south, and Louis L'Amour Lane to the north.
- CFD received mutual aid from nearby Powell Fire Department.
- The primary focus of the departments was structure protection.
- Winds were 90 mph sustained, with gusts to 130-140mph.
- One section of the fire progressed 1.5 miles in 3-4 minutes.
- There was zero visibility along Lower Line Creek.
- A volunteer fire fighter with CFD, Mr. Jerry Ruth, notified his wife to get-out immediately.
 - KL Note: The Ruth residence was located along the lower end of Line Creek, which was not threatened at first.¹
- The driveway for the Ruth residence was located on the north side, and his wife, Ms. Cindy Ruth, had to evacuate through the fire.
- CFD was able to retrieve her purse and the family dogs from the vehicle before it fully burned.
- Ms. Clark was found in a field; however, the field was already consumed when CFD got to her.
- There are some hunters known to use the area, but not a lot.
- CFD believes the blowing wind let a powerline and tree touch.
 - KL Note: The powerline and tree were located at 197 Louis L'Amour Lane, Powell, WY.
- CFD saw evidence of an arc on the powerline.
- Mr. Nate Hoffert believes embers from the arc blew over 100 feet to the east to start the fire.

Knott summary of information provided by Ms. Alicia Martian:

- Ms. Martian resides at 112 Crossfire Trail, Powell, WY.
- Power did not go out until the fire got to her house.
 - Ms. Martian's residence was approximately two (2) miles east, southeast of the powerline and tree identified by CFD.
- When Ms. Martian drove up the road (post-fire) she did not see a downed powerline at 197 Louis L'Amour Lane.
- There was a black truck by itself at that house (197 Louis L'Amour Ln) following the fire. Ms. Martian did not recognize the black truck.

¹ <https://www.ktvq.com/news/local-news/louis-lamour-fire-in-wyoming-takes-the-life-of-volunteer-firefighters-wife>

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Knott summary of information provided by Mr. Kevin Owens:

- Beartooth received no fault indicators or recorded any power outages prior to the fire for the area. The only loss of power resulted after the fire attacked various structures and power lines along Line Creek.
- The reclosures for the system did not trip nor did the breakers for 197 Louis L'Amour Lane.
- No damage to the poles were observed. There was arcing to the surface of the power line feeding 197 Louis L'Amour Lane near the contacted tree branch. The power line had not been replaced prior to Knott's inspection.

Knott summary of preliminary findings from Knott:

- A review of the NOAA Integrated Surface Dataset (Global/KPOY), generally indicated winds for November 15, 2021 were from the west until approximately 6pm, and then from the south. Winds were recorded at generally 25-35 mph throughout the day, and then 5-10 mph.
 - KL Note: KPOY (Powell Municipal Airport) was located approximately 25 miles southeast of the powerline and tree identified by CFD.
- The fire patterns indicated the fire front moved east and spread along Line Creek, generally consuming surface fuels, consistent with witness accounts and available wind direction data.
- The area of origin was determined to be to the south of the main residence at 197 Louis L'Amour Lane near the various out buildings and seating areas through the property.
- The powerline and tree branch with arc indicators, identified by CFD, were located approximately 150 feet to the west of the fire area of origin.
- The distance from the powerline to the contact point with nearest tree branch(es) was measured to be between 5 and 6 feet.
- The tree was located to the east of the powerline and was between the powerline and the area of origin identified further to the east.
- The topography and vegetation were similar between the utility pole for the powerline, and the area of origin for the fire.
- The dry grasses and other vegetation (surface fuels) surrounding the base of the utility pole and the charred branch were not consumed by fire.
- During the investigation, it was undetermined when the arc between the powerline and the tree branch occurred. Beartooth electric did not have any indications of a fault related to subject powerline prior to the fire being reported.
- During the investigation, it was undetermined how the charred branch separated from the tree and passed through, or beneath, the bare tree canopy, to arrive at its final rest position in an unburned area at least 75 feet to the east.
- During the investigation, it was undetermined why the charred branch, which would have been a competent ignition source, failed to ignite the dry grass beneath the tree where the charred branch was found.

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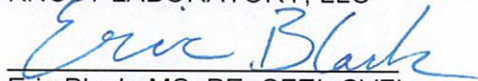
- The first evidence of fire spread was at least 150 feet east of the powerline and was in an area near an outbuilding with an outdoor log arrangement for seating.
- Knott disagrees with Mr. Nate Hoffert that the embers from an arcing event, 150 feet to the west of the area of origin, would be capable of maintaining enough energy to ignite the dry grass while the charred branch found beneath the tree was unable to ignite the grass around it. The charred branch would be a much larger energy source and would maintain heat better, making it a more competent ignition source than airborne embers.
- Based on the proximity of the overhead power line to the tree branches and the high winds reported by the first responders, it is possible the power line contacted the tree branch and caused an arcing event; however, with no tripped breakers or reclosures, the exact time of contact cannot be determined. Therefore, it cannot be determined if this arcing event occurred prior to or on the date of loss. Additionally, it is unlikely that embers from an arcing event would travel over 150 feet and ignite dry grass while a charred branch which fell below the tree could not.
- A metal trashcan was found blown over and lodged in a ditch toward the eastern section of the area of origin. The trashcan contained fire patterns which were consistent with the trashcan having been used as a makeshift firepit (fire can or fire bucket). If the fire bucket contained coals from an improperly extinguished fire, the fire bucket would be a competent ignition source for the surface fuels located in the area of origin.
- During the investigation, it was undetermined when the last use of the fire bucket occurred; however, hunters were known to occasionally use the area, and the presence of an unknown vehicle (black truck) may indicate recent activity by unknown persons at or near the area of origin.
- The charred tree branch and fire bucket were collected by Beartooth and they are being held at their office Red Lodge, MT.

Closure:

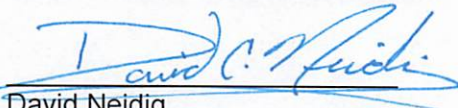
The opinions and findings expressed in this report are based upon the information available to these writers as of the date of this report. As such, Knott Laboratory reserves the right to modify the findings contained herein upon receipt, testing, or discovery of additional information.

Respectfully submitted,

KNOTT LABORATORY, LLC



Eric Black, MS, PE, CFEI, CVFI
Senior Engineer/Fire Investigator



David Neidig
Project Engineer
Peer Review

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Attachment A, Knott Laboratory Photographs

ATTACHMENT A
Knott Laboratory Photographs

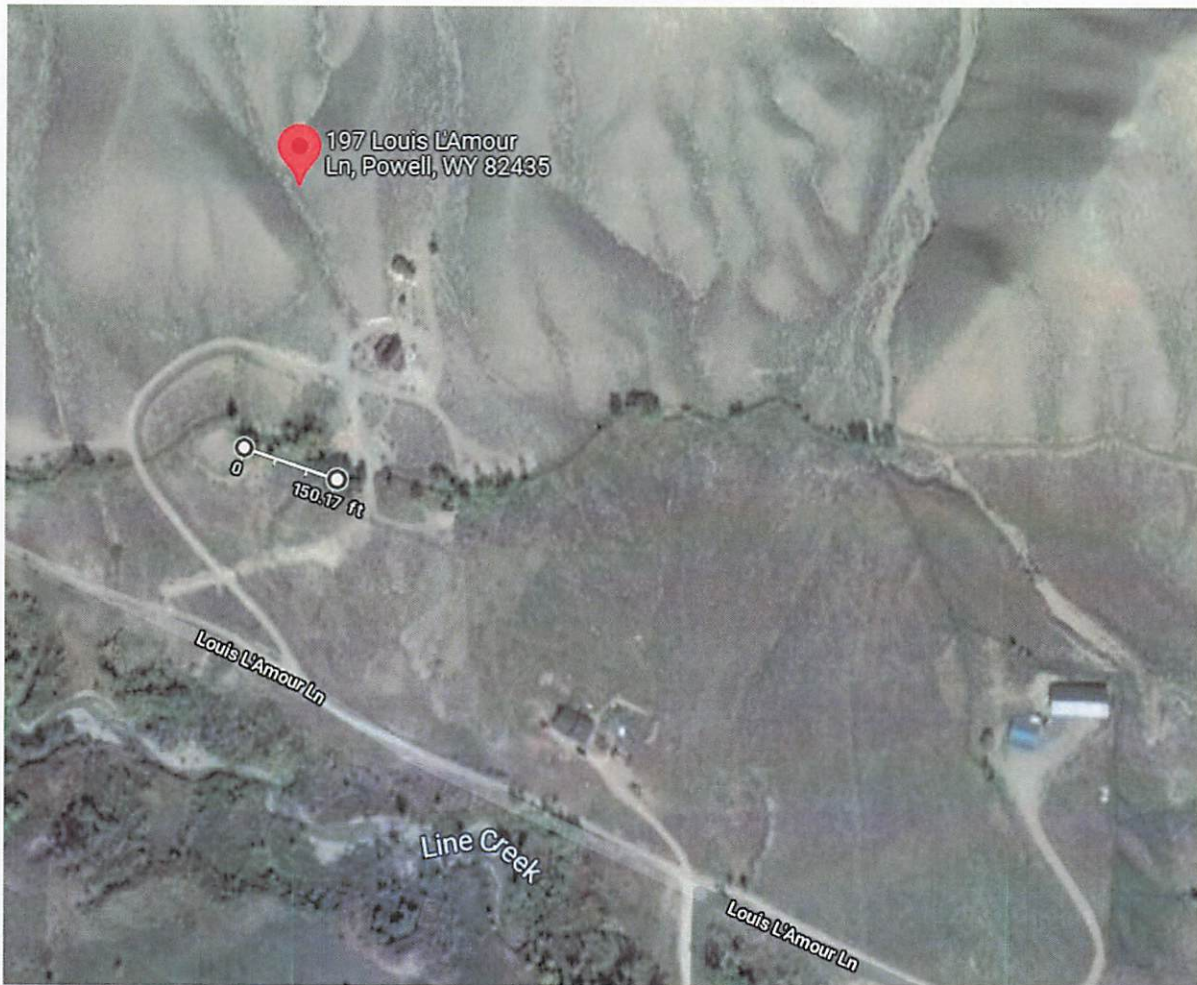


Figure 1 – Screen Capture from Google Maps of 197 Louis L'Amour Ln. Approximate distance from utility pole (0 ft) to area of origin (150.17 ft) shown.

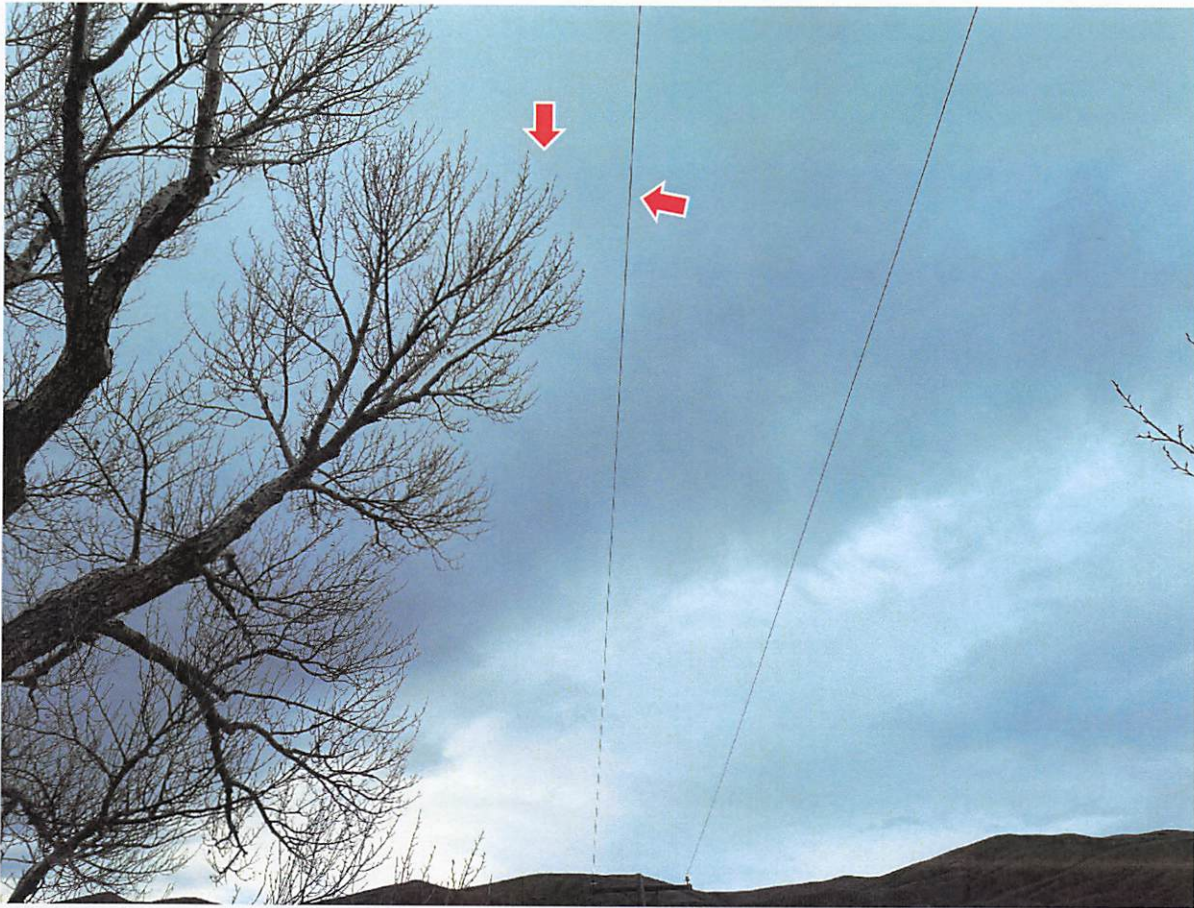


Figure 2 – Subject Powerline and Tree. Mark-up by Knott.



Figure 3 – Area of Origin Location Near Log Seating.



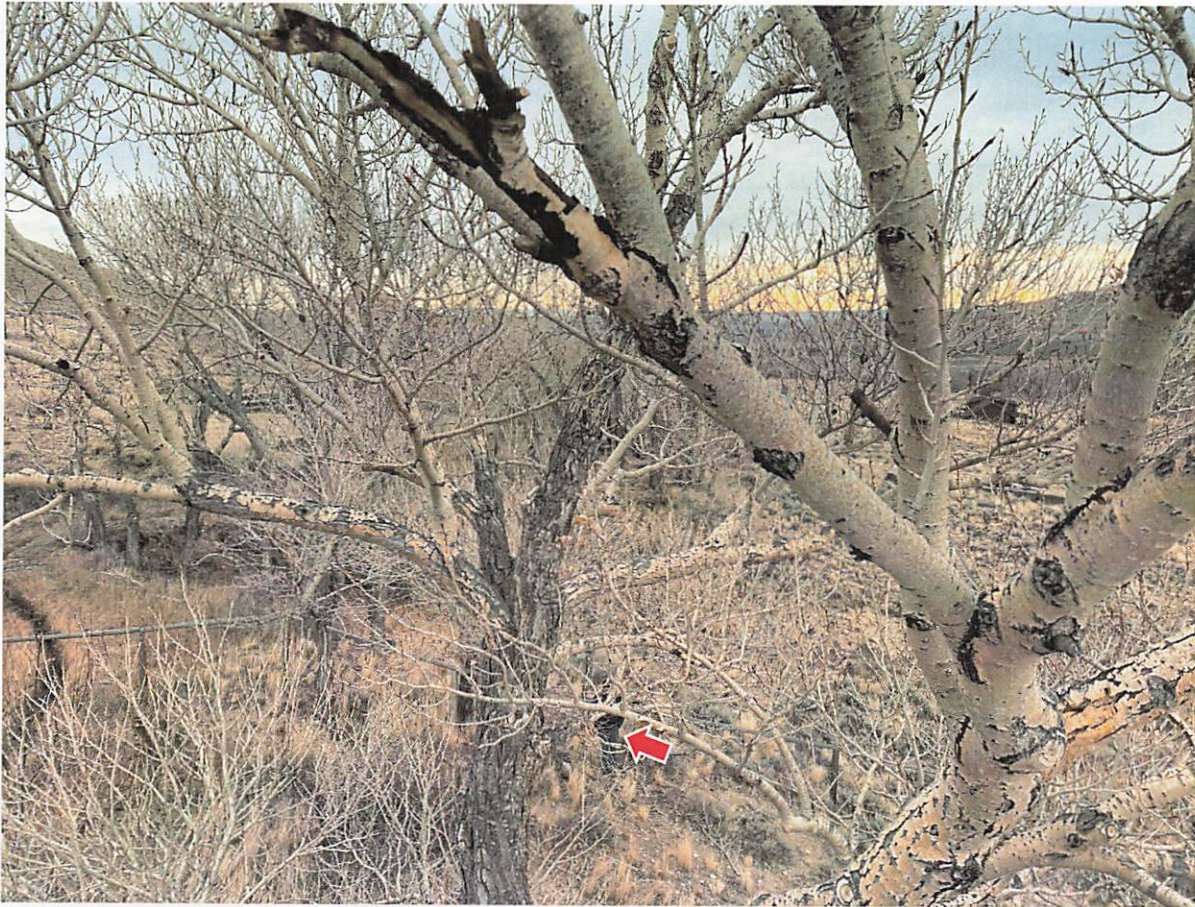
Figure 4 – Area of Origin Location Near Outbuilding



Photograph 5 – Charred Branch Found Location on Ground. Mark-up by Knott.



Figure 6 – Charred Branch. Mark-up by Knott.



Photograph 7 – Location of Charred Branch as Viewed from Potential Area of Separation. Mark-up by Knott, arrow shows individual standing where branch was found on the ground.



Photograph 8 – Fire bucket Found on East Side of Property. Mark-up by Knott.